

## PATENT COOPERATION TREATY

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DUBUC, J.  
GOUDREAU GAGE DUBUC  
Stock Exchange Tower  
800 Place Victoria  
Suite 3400, P.O Box 242  
Montreal, Quebec H4Z 1E9  
CANADA

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MCGILL UNIVERSITY et al

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C.P. 242 PLACE VICTORIA  
MONTRÉAL, QUÉBEC H4Z 1E9  
397-7602

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34, chemin des Colombettes  
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Quebec H4W 2S9 (CA). LOPEZ LASTRA, Marcelo  
(CL/CL); MLL: Toconce 1520, Las Coudes, Santiago  
(CL).

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(74) Agents: DUBUC, J. et al.; GOUDREAU GAGE DUBUC,  
Stock Exchange Tower, 800 Place Victoria, Suite 3400, P.O.  
Box 242, Montreal, Quebec H4Z 1E9 (CA).

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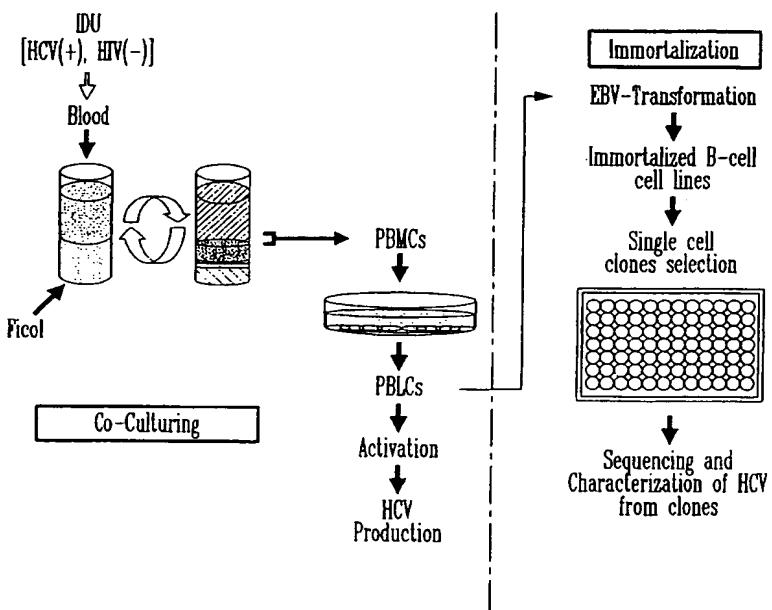
(71) Applicant (for all designated States except US): MCGILL  
UNIVERSITY [CA/CA]; Office of Technology Transfer,  
3550 University Street, Montreal, Quebec H3A 2A7 (CA).

(72) Inventors; and

(75) Inventors/Applicants (for US only): SONENBERG,  
Nahum [CA/CA]; 5609 Blossom Avenue, Côte St-Luc,

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(54) Title: METHOD FOR INDUCING HEPATITIS C VIRUS (HCV) REPLICATION *IN VITRO*, CELLS AND CELL LINES  
ENABLING ROBUST HCV REPLICATION AND KIT THEREFOR



(57) Abstract: The present invention relates to hepatitis C virus (HCV). More particularly, the invention relates to the development of a tool suitable for the search, discovery and validation of novel HCV antiviral drugs and therapies (e.g. vaccine). The invention further relates to methods for inducing HCV replication *in vitro*, and more particularly to a simple *in vitro* replication assay for HCV. In addition, the invention relates to the use of the methods of the present invention to prognose the resistance/sensitivity of a particular strain of HCV to a chosen anti-HCV agent. In one embodiment, the present invention relates to an adaptation of a therapeutic regimen for a patient infected with HCV which takes into account the resistance/sensitivity phenotype of the HCV strain which infects same. The invention more particularly, relates to a method for generating an established cell line which produces hepatitis C virus (HCV) comprising transforming peripheral blood mononuclear cells (PBMCs) which

produce HCV with Epstein Barr virus (EBV). The invention also relates to an EBV established B-cell line capable of replicating complete and infectious HCV. As well, the invention relates to a cell-based *in vitro* replication system for HCV comprising an EBV-transformed B-cell capable of replicating complete and infectious HCV, and a second cell population having HCV tropism and in which robust HCV replication occurs, so that under appropriate culture conditions the second cell population can become infected by the infectious HCV produced by the EBV-transformed B-cell. The present invention also relates to kits for transforming a HCV-producing cell and to kits for diagnosing HCV in a patient.

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